## AMENDMENTS TO THE CLAIMS

Please amend claims 1, 9, 29, and 35, as follows. A complete listing of the current pending claims is provided below.

1. (Currently Amended) A detector assembly, comprising:

a plurality of first imaging elements made from a first scintillating material that has a first radiation detection characteristic, wherein two of the first imaging elements made from the first scintillating material are located side-by-side to form a first row; and

a plurality of second imaging elements made from a second scintillating material that has a second radiation detection characteristic, wherein two of the second imaging elements made from the second scintillating material are located side-by-side to form a second row;

wherein the first and second scintillating materials have different compositions.

2. (Previously Presented) The detector assembly of claim 1, wherein each of the first and second scintillating materials converts x-ray radiation into photons.

3. (Canceled)

4. (Previously Presented) The detector assembly of claim 41, wherein the first photoconductor element is made from $HgI_2$.

5. (Previously Presented) The detector assembly of claim 41, wherein the first photoconductor element is made from or $PbI_2$.

6. (Original) The detector assembly of claim 1, wherein the first imaging elements and the second imaging elements are arranged relative to each other in a checkerboard pattern.

7. (Original) The detector assembly of claim 1, wherein the first imaging elements are arranged in a plurality of first lines, and the second imaging elements are arranged in a plurality of second lines.

8. (Original) The detector assembly of claim 7, wherein each of the first lines is positioned adjacent one of the second lines.

9. (Previously Presented) A radiation projection detector for generating signals in response to a radiation beam, comprising:

a conversion panel configured to generate light photons in response to a radiation, the conversion panel having a plurality of first conversion elements and a plurality of second conversion elements; and

a photo detector array aligned with the conversion panel, the photo detector array comprises a plurality of detector elements, each of the detector elements configured to generate a signal in response to light photons received from the conversion panel;

wherein each of the first conversion elements is made from a first material that has a first radiation-to-photon conversion characteristic, and each of the second conversion elements is made from a second material that has a second radiation-to-photon conversion characteristic, the first and second materials have different compositions; and

wherein two of the first conversion elements made from the first material are located side-by-side to form a first row, and two of the second conversion elements made from the second material are located side-by-side to form a second row.

10. (Canceled).

11. (Original) The detector of claim 9, wherein the first conversion elements are configured for generating light photons in response to radiation at a first energy level, and the second conversion elements are configured for generating light photons in response to radiation at a second energy level.

12. (Original) The detector of claim 11, wherein the first energy level is below a k-edge of a contrast agent, and the second energy level is above a k-edge of a contrast agent.

13. (Original) The detector of claim 9, wherein the plurality of the first and the second conversion elements are arranged relative to each other in a checkerboard pattern.

14. (Original) The detector of claim 9, wherein the plurality of the first and the second conversion elements are arranged in a plurality of lines, and each of the plurality of lines of the first conversion elements is located adjacent one of the plurality of lines of the second conversion elements.

15. (Original) The detector of claim 9, wherein the plurality of detector elements comprises a plurality of first detector elements and a plurality of second detector elements.

16. (Original) The detector of claim 15, wherein the plurality of the first detector elements are configured to generate signals in response to photons having a first energy level, and the plurality of the second detector elements are configured to generate signals in response to photons having a second energy level.

17. (Original) The detector of claim 9, wherein the plurality of detector elements are arranged in a plurality of lines, and the detector further comprising an access circuit coupled to the photo detector array and configured to collect signals from two or more of the lines of the detector elements simultaneously.

18. (Previously Presented) A radiation projection detector for generating signals in response to a radiation beam, comprising:

a photoconductor layer configured to generate charges in response to radiation, the photoconductor layer having a plurality of first photoconductor elements and a plurality of second photoconductor elements; and

a detector array aligned with the photoconductor layer, the detector array comprises a plurality of detector elements, each of which configured to generate a signal in response to a charge received from the photoconductor layer;

wherein each of the first photoconductor elements has a first charge generating characteristic, and each of the second photoconductor elements has a second charge generating characteristic; and

wherein the plurality of first photoconductor elements and the plurality of second photoconductor elements form a surface.

19. (Original) The detector of claim 18, wherein the first photoconductor elements and the second photoconductor elements are made from different materials.

20. (Original) The detector of claim 18, wherein the first photoconductor elements and the second photoconductor elements have different thicknesses.

21. (Original) The detector of claim 18, wherein the first photoconductor elements are configured for generating charges in response to radiation at a first energy level, and the second photoconductor elements are configured for generating charges in response to radiation at a second energy level.

22. (Original) The detector of claim 21, wherein the first energy level is below a k-edge of a contrast agent, and the second energy level is above a k-edge of a contrast agent.

23. (Original) The detector of claim 18, wherein the plurality of the first and the second photoconductor elements are arranged relative to each other in a checkerboard pattern.

24. (Original) The detector of claim 18, wherein the plurality of the first and the second photoconductor elements are arranged in a plurality of lines, and each of the plurality of lines of the first photoconductor elements is located adjacent one of the plurality of lines of the second photoconductor elements.

25. (Original) The detector of claim 18, wherein the plurality of detector elements comprises a plurality of first detector elements and a plurality of second detector elements.

26. (Original) The detector of claim 25, wherein the plurality of the first detector elements are configured to generate signals in response to charges having a first quantum level, and the plurality of the second detector elements are configured to generate signals in response to charges having a second quantum level.

27. (Original) The detector of claim 18, wherein the plurality of detector elements are arranged in a plurality of lines, and the detector further comprising an access circuit coupled to the photo detector array and configured to collect signals from two or more of the lines of the detector elements simultaneously.

28. (Original) The detector of claim 18, wherein either or both of the first and the second photoconductor elements are made from $HgI_2$ or $PbI_2$.

29. (Currently Amended) A radiation projection detector for generating signals in response to a radiation beam, comprising:

a first filter having a first radiation filtering characteristic;

a second filter having a second radiation filtering characteristic, the first and the second filters being components of the detector;

a photoconductor layer for generating electron-hole-pairs in response to radiation, the photoconductor layer aligned with the first and the second filters, wherein the first and second filters are physically coupled to the photoconductor layer; and

a detector array aligned with the photoconductor layer.

30. (Original) The detector of claim 29, wherein either or both of the first and the second filters are made from a material selected from the group consisting of aluminum, copper, and molybdenum.

31. (Original) The detector of claim 29, wherein the first filter has a plurality of first regions, and the second filter has a plurality of second regions.

32. (Original) The detector of claim 31, wherein the plurality of the first and the second regions are arranged relative to each other in a checkerboard pattern.

33. (Original) The detector of claim 31, wherein the plurality of the first and the second regions are arranged in a plurality of lines, and each of the plurality of lines of the first regions is located adjacent one of the plurality of lines of the second regions.

34. (Original) The detector of claim 29, wherein a first portion of the photoconductor layer is aligned with the first filter, and a second portion of the photoconductor layer is aligned with the second filter.

35. (Currently Amended) A radiation projection detector for generating signals in response to a radiation beam, comprising:

a first filter having a first radiation filtering characteristic;

a second filter having a second radiation filtering characteristic, the first and second filters being components of the detector;

a conversion layer for generating photons in response to radiation, the conversion layer aligned with the first and the second filters, wherein the first and second filters are physically coupled to the conversion layer; and

a detector array aligned with the conversion layer.

36. (Original) The detector of claim 35, wherein either or both of the first and the second filters are made from a material selected from the group consisting of aluminum, copper, and molybdenum.

37. (Original) The detector of claim 35, wherein the first filter has a plurality of first regions, and the second filter has a plurality of second regions.

38. (Original) The detector of claim 37, wherein the plurality of the first and the second regions are arranged relative to each other in a checkerboard pattern.

39. (Original) The detector of claim 37, wherein the plurality of the first and the second regions are arranged in a plurality of lines, and each of the plurality of lines of the first regions is located adjacent one of the plurality of lines of the second regions.

40. (Original) The detector of claim 35, wherein a first portion of the conversion layer is aligned with the first filter, and a second portion of the conversion layer is aligned with the second filter.

41. (Previously Presented) A detector assembly, comprising:

a plurality of first imaging elements made from a first photoconductor that has a first radiation detection characteristic; and

a plurality of second imaging elements made from a second photoconductor that has a second radiation detection characteristic;

wherein the plurality of first imaging elements and the plurality of second imaging elements form a surface.

42. (Previously Presented) The detector assembly of claim 41, wherein the first imaging elements and the second imaging elements are arranged relative to each other in a checkerboard pattern.

43. (Previously Presented) The detector assembly of claim 41, wherein the first imaging elements are arranged in a plurality of first lines, and the second imaging elements are arranged in a plurality of second lines.

44. (Previously Presented) The detector assembly of claim 43, wherein each of the first lines is positioned adjacent one of the second lines.

45. (Previously Presented) The detector assembly of claim 41, wherein each of the first and second photoconductors generates electron-hole-pairs in response to radiation.

46. (Previously Presented) The detector of claim 9, wherein the first conversion element is made from a first material having the first radiation-to-photon conversion characteristic, and the second conversion element is made from a second material having the second radiation-to-photon conversion characteristic.

47. (Previously Presented) The detector of claim 18, wherein the first photoconductor elements are made from a first material having the first charge generating characteristic, and the second photoconductor elements are made from a second material having the second charge generating characteristic.

48. (Previously Presented) The detector of claim 18, wherein the surface comprises a substantially planar surface.

49. (Previously Presented) The detector of claim 18, wherein the plurality of first photoconductor elements and the plurality of second photoconductor elements have a same height.

50. (Previously Presented) The detector assembly of claim 41, wherein the surface comprises a substantially planar surface.

51. (Previously Presented) The detector assembly of claim 41, wherein the plurality of first imaging elements and the plurality of second imaging elements have a same height.

52. (Previously Presented) A detector assembly, comprising:

a plurality of first imaging elements made from a first photoconductor that has a first radiation detection characteristic; and

a plurality of second imaging elements made from a second photoconductor that has a second radiation detection characteristic;

wherein one of the plurality of first imaging elements and one of the plurality of second imaging elements are arranged side-by-side.

53. (Previously Presented) The detector assembly of claim 52, wherein the one of the plurality of first imaging elements has a first side, the one of the plurality of second imaging elements has a second side, and the first side abuts against the second side.

54. (Previously Presented) The detector assembly of claim 52, wherein the one of the plurality of first imaging elements and the one of the plurality of second imaging elements form a surface.

55. (Previously Presented) The detector assembly of claim 54, wherein the surface comprises a substantially planar surface.